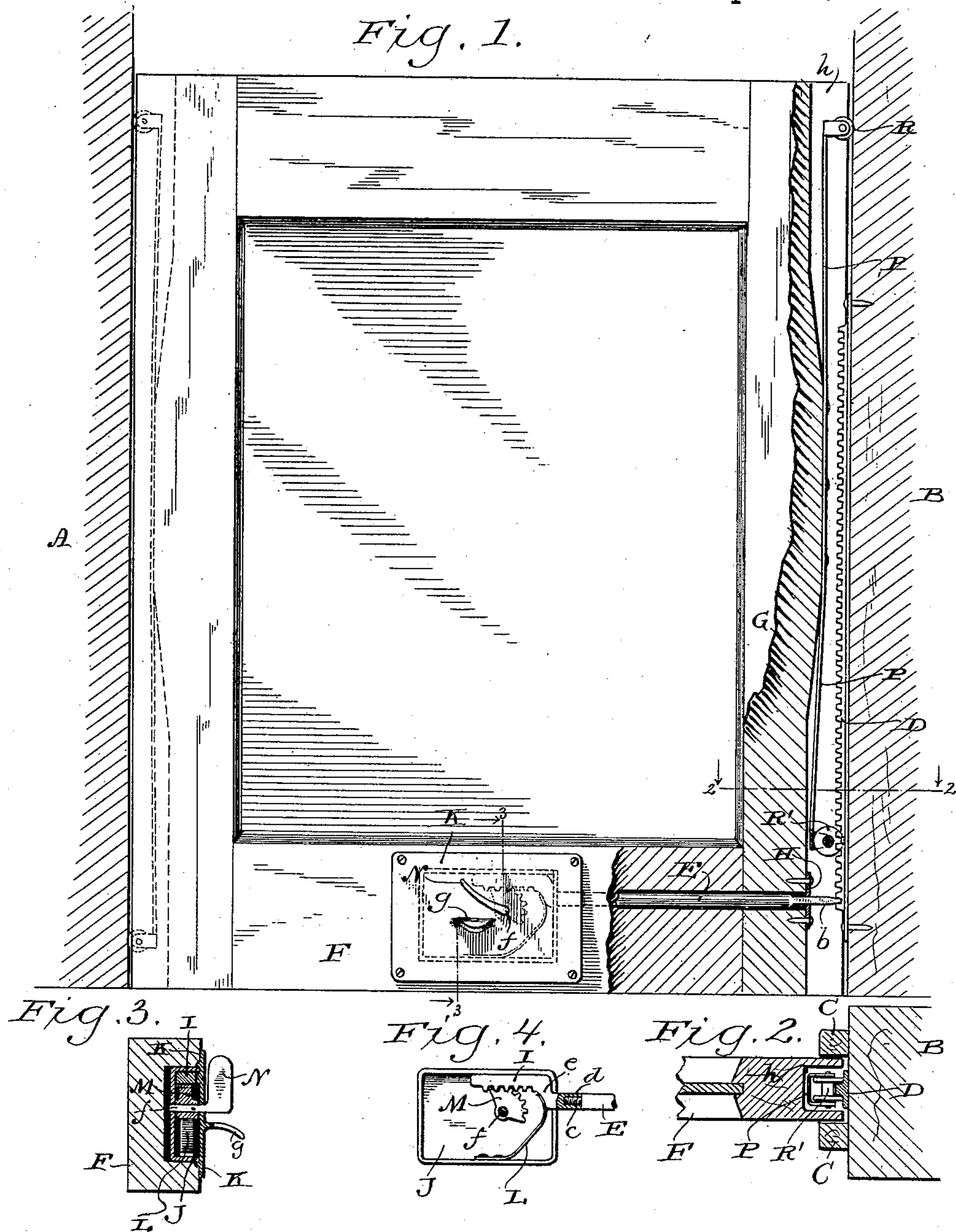


(No Model.)

H. S. & H. E. KLEIN.
SASH FASTENER.

No. 410,837.

Patented Sept. 10, 1889.



Witnesses:
Geo. W. Young.
N. E. Oliphant

Inventors:
Henry S. Klein
Henry E. Klein
By Stout & Woodward
Attorneys

UNITED STATES PATENT OFFICE.

HENRY S. KLEIN AND HENRY E. KLEIN, OF MILWAUKEE, WISCONSIN.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 410,837, dated September 10, 1889.

Application filed March 1, 1889. Serial No. 301,702. (No model.)

To all whom it may concern:

Be it known that we, HENRY S. KLEIN and HENRY E. KLEIN, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Windows; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention relates to windows; and it consists in certain peculiarities of construction and combination of parts to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a front elevation of our invention, partly in section; Fig. 2, a horizontal section on line 2 2 of Fig. 1; Fig. 3, a vertical transverse section on line 3 3 of Fig. 1, and Fig. 4 a detail view of a latch mechanism that forms part of our invention.

Referring by letter to the drawings, A B represent the side pieces of a window-frame.

Secured to the side piece B between the binding-strips C for the window-sash is a rack D, designed for engagement with the flattened end *b* of a rod E, the latter being arranged to slide in the bottom rail F and stile G of the sash and held against turning by means of a slotted plate H, slipped onto its flattened end and secured to said stile. The inner end *c* of the sliding rod E is reduced and screw-threaded in the socketed end *d* of a rack-bar I, the latter being extended through an end wall of a casing J, that is mortised in the bottom rail F of the window-sash and covered by a face-plate K, secured to said rail.

A spring L is secured within the casing J to exert its force against a bend *e* in the rack-bar I, and a toothed segment M is also arranged within said casing to mesh with said rack-bar. The toothed segment M is fast to a stem *f*, that projects from a thumb-piece N, and this stem has its bearings in the rear wall of the casing J and the face-plate K, the latter being provided with a finger-rest *g* in opposition to said thumb-piece.

By pressing down on the thumb-piece N the toothed segment is operated to actuate the rack-bar I, and thus the flattened end *b* of the latter is withdrawn from engagement with the rack D, in order to permit the raising of the

window-sash. On the release of the thumb-piece N the spring L forces the rack-bar I back to its normal position, and thus the rack D and rod E are again engaged and the window-sash locked in the position to which it has been adjusted.

By the peculiar construction and arrangement of parts above described the mechanism that locks the window-sash in its adjusted position is concealed and protected from dirt.

Like in our patent, No. 392,924, issued November 13, 1888, the stiles of the sash have their outer edges cut to form a groove *h*, that gradually increases in depth from about the center toward its extremities, at which points it is deepened laterally to form recesses, as best illustrated in Fig. 1, and secured to the sash-stiles within the grooves *h* are semi-elliptic springs P, each of the latter having its ends provided with bearings for the journals of anti-friction rollers R or R', that travel on the side strips A B of the window-frame.

The lower roller R', journaled to the semi-elliptic spring P, adjacent to the rack D, is necessarily constructed in such a manner as to permit of its straddling said rack, as best illustrated in Fig. 2.

By the above construction it will be seen that we provide a very simple easily-operated window whose sash can be automatically locked at any height to which it may be adjusted, and our improvements can be readily applied to any window now in use without any material alteration or expense.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a window, the combination, with the frame and sash, of a rack secured to a side piece of said frame, a sliding rod arranged in said sash to engage the rack and having a screw-threaded inner end, a rack-bar provided with a socket to engage said screw-threaded end of the sliding rod, and a pivotal toothed segment arranged to mesh with said rack-bar, substantially as set forth.

2. In a window, the combination, with the frame and sash, of a rack secured to a side piece of said frame, a sliding rod arranged in said sash, a casing mortised in the lower sash-rail and provided with a detachable face-

plate having a finger-rest projecting there-
from, a rack-bar arranged within the casing
and detachably connected to the sliding rod,
a stem having its bearings in said casing and
5 face-plate and terminated in a thumb-piece,
a toothed segment arranged on the stem to
engage the rack-bar, and a spring arranged
to exert its force against said rack-bar, sub-
stantially as set forth.
10 In testimony that we claim the foregoing
we have hereunto respectively set our hands,
at Milwaukee, in the county of Milwaukee

and State of Wisconsin, and at Ashland, in
the county of Ashland, and in the State of
Wisconsin, each in the presence of two wit- 15
nesses.

HENRY S. KLEIN.
HENRY E. KLEIN.

Witnesses for Henry S. Klein:

N. E. OLIPHANT,
WILLIAM KLUG.

Witnesses for Henry E. Klein:

C. E. STREES,
E. H. ELLIS.